

✓ Last *Lepus texianus* ♀

✓ 2687 *Perodipus chapmani*

✓ 2686 " "

✓ 2676 " "

Capt. Vicente R. Macin,
Administrador at the Custom
House at Santo Domingo,
Sonora, gave me the
following Mexican names,
uniting them himself:—

Hawk = Gavilan

Bull Snake = Alicante, Alicante.

Cataglyphis = Garrión.

Elder (*Sambucus*) = Sauco

Xanthium canadensis = Cadillo.

Tessaria borealis ?? = Bachanilla.

Baccharis = Batamote.

Cereus giganteus = Sahuara.

" ? = Pitaya.

" ? = Cinita.

✱

Mr. W. S. Sturges
La Osa, Pima Co.,
Arizona Terr.

Mr. Elias R. Logan
Q. M. Agt.
Tucson, Arizona Terr.

✱ Sagebrush = Chamizo.

A Coarse Composite = Chicura.

(Specimen taken) = Rama amarilla.

Greasewood = Gobernadora o

Hebiondilla and is used

much as a remedy for

rheumatism in man and

(asthma?) in horses.

Plant with waxy leaves and

purple flowers = Cuavir.

Mr. C. W. Rempton
El Volador Mine
Oro Blanco,

Pima Co., Arizona

White-throated Swift - One at Mountain

Spring, Cal. May 11.

Blue Grosbeak - One at Mt Spring,
Cal. May 12, 1894.

Feb. to 23, 1894.

Mammals at Tinajas Altas

- ✓ Felis concolor? - Tracks; perhaps
of F. tigris. Scarce.
✓ Lynx baileyi. - Tracks.
✓ Canis latrans. - Abundant.
Very pale-colored. Several
✓ trapped as they went for
water to the tanks both below
& above.
✓ Urocyon v. scottii. - Tracks. Mr.
Wheeler trapped one last year.
✓ Vulpes macrotis. - Tracks on the plain.
Taxidea. - Burrows very numerous.
✓ They probably dig out Dipodomys
deserti for food.
✓ [No signs of Skunks.]
Bassariscus astuta. - Signs everywhere
in the Mts. Mr. Wheeler sent
me a skull from the Gila
Mountains, near Tinajas.
Two species of Bats collected.
✓ They flew over the tanks.
✓ The largest species was
sometimes abroad in
daytime.

Ouleto capra americana. -

- ✓ Tracks between Tule Wells
& Tinajas Altas, on a plain.
[No signs of deer.]

Ovis montana. - Seen three

- times. One herd of 6 one
✓ of 3 & again one of 3 (2♂ + 1♀).
I shot one female. Horns
by scores at Indians' fires
& scattered all about.

Lepus texianus. - Common

- about Tinajas. One seen
✓ on the opposite side of the
Gila Mountains on the edge
of the desert. Tracks seen
15 miles further west on
the Yuma Desert. 2 Specimens.

Lepus arizonae. - Several seen

- ✓ Found both sides of Gila Mts.
[No signs of Thomomys.]

✓ Dipodomys deserti. - Signs
everywhere; ^{seen 15 miles out on desert} none trapped.

✓ Dipodomys. - Specimens of
two small species trapped.

✓ Perognathus. - One trapped close to the tanks.

(Mammals of Tinajas Altas)

Neotoma. - A pale form; one specimen.

Perhaps common.

✓ Sitomys eremicus. - A small slender species common in rocks close to the Tanks.

✓ Tamias harrisi. - A pale form very common. Tame; always in rocks. Feeds on mesquite.

Spermophilus tereticaudus. - Scarce.

Birds. -

Cryptonyx montezumae ?? Tracks of some quail seen in sandy commons in both the Tule & Gila Mts.

[No doves seen.]

Cathartes aura. - Commonly seen though there must be little food.

Buteo borealis calurus. Often seen; mating.

Aquila chrysaetos. One or two. No signs of nests.

Falco mexicanus. - One or two seen 15 miles west of the Gila Mts on Yuma Desert.

Falco sparverius deserticolus. Common. About the Mts., as they were about the Tules. Probably breed in holes in the rocks.

Asio wilsonianus. - Feathers probably of this Owl in canyons of Gila Mts, where ~~large ironwood~~ there are trees.

Bubo virg. subarcticus. - A few.

Geococcyx californianus. One seen here & one at Tule.

Dryobates bairdi. - Several.

Melanerpes uropygialis. Common.

Geolaptes cafer. - Several seen.

Calyptrae costae. - Very abundant.

Utters a sound like gas under pressure escaping from small hole in pipe.

Chatters when sitting on twig.

Both sexes abundant. First

seen at Pozo de Luis.

Sayornis saya. - Common.

It likes the canons & rocks.

The only sp. of Hylcoterus

(Birds of Tinajas Altas)
Altitude 1500 feet.

Coccyz p. sinuatus. - Common.

Mating; courting; so gentle
that one could almost touch
them, when feeding, on our
arrival. In flocks of 3-6.

Sturnella neglecta. - Two seen
on the plain, perched on a
cactella, February 21st.

Carpodacus m. frontalis. - Flocks.

Zonotrichia intermedia. - A few.

Amphispiza bilineata. - A few.

Amphispiza belli nevadensis. - "

Pipilo fuscus mesoleucus. - Scarce.

Pipilo chlorurus. - One Febr. 20.

Phainopepla nitens. - Common; singing.

Lanius l. excubitorides. - A few.

Helminthophila c. lutescens. - "

Dendroica auduboni. - One Febr. 19.

Oreoscoptes montanus. - Quite common.

Mimus polyglottos. - " "

Harporhynchus palmeri. - One

caught in mammal trap.

Harporhynchus lecontei.

Not rare on the plain
east of Gila Mts. One
wounded 2 miles e. of Tinajas.

Heleodytes brunneicapillus. - Scarce.

Salpinctes obsoletus. - Common.

Catherpes m. conspersus. - Common;
high up; singing.

Troglodytes aedon aztecus. - A few.

Auriparus flaviceps. - A few; breeds.

Regulus calendula. - Several seen.

Polioptila plumbea. - Common.

Merula m. propinqua. - A few.

Feeding on mistletoe of ironwood,
paloverde & mesquites. Comes
to the tanks for water.

Sialia mexicana. - Flocks
feeding on mistletoe, but
not so common as S. arctica.

Sialia arctica. - Quite numerous.

Very handsome when watering
at the tanks.

Plants at Tinajas Altas: -

Ironwood. - In all the arroyos

prolonged across the plain
from the Patagonia ^{Gila} Mts.

(Plants Tinajas Altas).

Ironwoods are common in canons of Gila Mts., extending along arroyos some 5 to 10 miles west of them on the Yuma Desert.

Large-leaved Paloverde. Common in canons & arroyos. Ranging much as above.

Small-leaved Paloverde. - do

Mesquite - do

Acacia. - The tree acacia is common in arroyos. ^{Some in the Gila Mts.} small shrub Acacias also occur.

A small tree with flowers like *Cepocynum* grows commonly in canons of the Gila Mts. (No. 1).

Agave. - Common on the Gila Mts. Specimens.

^{Nolina}
~~*Dasylirion*~~ - A smooth-edged species is abundant in the Gila Mts. Some were very large, with caudex

about 20 to 25 feet high, heads 6 feet; flower stalks 8 feet, making the latter of them about 30 to 35 feet from ground to top of flower stalk.

Dasylirion nevadensis? - I found this in Bloody Basin Yavapai Co., Arizona, and have not seen it again until we reached the Gila Mountains where it is abundant.

A flowering pea with reddish & yellow flowers was very abundant. Specimens taken.

Specimens were also taken of a yellow composite with whitish leaves & red fl. prostrate plant along arroyos.

These are characteristic from Quitovaquito to Tinajas, in arroyos, and attract

Hummingbirds (*C. costae*).

Tourds (*Quercus* hard-leaved) with roots 4 ft long & a foot in diameter were common on

(Plants of Tinajas Altas)
arroyos. Specimens of frutef. *Fouquieria*. - Common on Mts. & on
the adjacent plain. Some with
stems $\frac{1}{2}$ meter in diameter.
Not flowering now. At Poso
Luis some were flowering in ?
Ephedra. - A species was common
on the Gila Mts. & about to flower.
Datura. - Specimens taken. ^{Flowering}
Common in canons of the
Gila Mts.

Nicotiana. - A small species
was common in canons. Also
a small handsome yellow-
flowering *Physalis*. Specimens taken.
The caetures of the Gila Mts. were
the small species resembling cholla
a small species of *Platopuntia*,
a *Cylindropuntia* called "Tasajo"
by Mexicans, *Cercus giganteus*, a small
Cercus? having very long spines, a
red-spined, handsome *Echinocactus*,
a small species with slender fishbone
spines (the longest), specimens of all taken.
On the plains is a coarse *Mammillaria*.

Vegetation at Adonde.

Mesquites. - Abundant near the Gila
Yornillas. - do
Ironwood. - Scarce in dry arroyos.
Large-leaved Paloverde. do
The Small-leaved Paloverde
was not seen.

Cottonwoods } Common on riverbank
Willows }

Cercus giganteus. - Numerous where
the foothills approach the river.
None on the river bottom.

The loose soil of the Gila
river-bottom is covered
with a plant having fleshy
leaves (specimens)

The purple-fl. arrowweed
grows ^{densely} near the water &
on the largest arroyos.

Mistletoe covers mesquites

Xanthium canadensis on the
edge of Gila River.

Coarse rushes on slues.

(Vegetation at Adonde)

Baccharis (Mex. *Batamote*) } dense growth of
~~Yarrow weed~~ } these near
Jessaria *bovialis* (*Cachamilla*) } the river
Acacia. - The tree ~~from~~ grows
in arroyos; no smaller species seen.
"Mangle". - This name was given
me by Derranti & is very
likely wrong, as other Mexicans
told me of another tree called
Mangle. It is a spring tree growing
in arroyos. I first got in in
arroyos of Sonoyta River at
Quitovaquito, afterwards at
Gila Wells, and at Adonde and
thence to near Gila City. It also
grows in arroyos of the Gila
River near Gila Bend.

Patura. - Some few seen.

A few specimens of
flowering animals were taken.

Birds at Adonde Sunday:

Podilymbus podiceps. - A few
in lakes or charcas near
the Gila River.

Anas boschas
Anas carolinensis
Anas cyanoptera
Anas americana
Anas strepera
Spatula clypeata
Dafila acuta } on Gila River.

Ardea herodias. - do

Fulica americana. - Charcas.

Gallinago delicata. - One on Gila

Fringilla minor. - One on the Gila

Actitis macularia. - Charcas.

Totanus solitarius. - One on

a charca below Adonde.

Totanus melanoleucus. - A few.

Agelaius vociferus. - Common.

Colaptes auratus. - Common.

[No doves seen; water too brackish]

Cathartes aura. - Common.

(Birds at Alondra)

- Accipiter velox*. - Common
" *cooperi*. - One
Buteo borealis calurus. - Common
Falco mexicana. - One
Falco peregrinus anatum. - One
chasing ducks on Gila River.
Falco sparverius deserticolus.
Scolecocyx californianus. - Common
[No Kingfishers seen]
Dryobates s. bairdi. - Common
Melanerpes uropygialis. - Common
Colaptes chrysoides. - One
Leotaphes cafer. - Common
[No Swifts or Hummers.]
Sayornis saya. - Common
Sayornis nigricans. - On the Gila
River; mating
Euphonia griseus. - Three seen; 1 shot
Corvus corax sinuatus. - Common
Agelaius p. sonoriensis. - A few on Gila
Sturnella. - a few seen
Carpodacus mexicanus frontalis. - Common
Ammodramus s. alaudinus. - a few

- Zonotrichia intermedia*. - Common
Spizella breweri. - Scarce
[No. from west of Warsaw.]
Amphispiza bilineata. - Scarce
Amphispiza belli nevadensis. - Common
Melospiza f. fallax. - Com; singing
Melospiza lincolni. - Scarce
Pipilo aberti. - First seen on the
boundary survey. Common
everywhere on the Gila bottom
Pipilo chlorurus. - One
Stelgidopteryx serripennis. - Common
Phainopepla nitens. - Common
Lanius l. excubitorides. - "
Helminthophila celata. - A few
Dendroica auduboni. - A few
Geothlypis trichas occidentalis. - A few
Anthus pensilvanicus. - Common
along the Gila.
[No Minis + very few *Oroscoptes*.
They do not like brackish water.]
Oroscoptes montanus. - One or two
Hesperophonus lecontei. - One
Hesperophonus crissalis. - Common
Helodytes brunneicapillus. - Common

(Birds of Adonde.)

Salpinctes obsoletus. - One.
Troglodytes aëdon aztecus. - Scarce.
Cathartes palustris. - A few.
Auriparus flaviceps. - Common.
Regulus calendula. - Several.
Polioptila plumbea. - Common; many.
Merula migratoria propinqua. - Three.

Mammals at Adonde.

Lynx baileyi. - Tracks.
Canis latrans. - One saw him the
Gila River to get a porcupine
bait (bird) and died. Very
common. One shot.
Procyon eumarginatus scottii
Vulpes macrotis.
Taxidea. - Burrows.
Procyon hernandezii. - A raccoon
was trapped in two No. 3 double
spring steel traps. Left a toe
in one trap, and broke chain
of other trap & dragged it
500 yards to large pile

of driftage 50x25x10 feet,
in which he lived. When
trying to slip him out
we found his nest well
lined with fur. The track
of hind foot measured 105^{mm}.

Bats. - A few at night.
Lepus texianus. - A number seen.
Lepus arizonæ. - Abundant.
Thomomys. - Fresh mounds
in two places, near a "charca".
None ^{signs} have been seen since
about monument No. 81, on
the Gila Desert.

Dipodomys deserti. - Common
[No other *Dipodomys* was found.]

Castor canadensis. - Old signs.

Residents say that there have
been scarcely any beavers on
the lower Gila since the flood
in February 1891, which reached
them all out. One man told
me that they are now working
extensively at Mohawk on the
Gila.

(Mammals at Adonde.)

[Saw no signs of Muskrats.]

Neotoma. - Common, especially under the low spreading mesquites & in piles of driftage beside the Gila. Several were trapped. Darker than those taken at Gule Wells & Tinajas. Sitomys eremicus. - A small form of this group was trapped on an arroyo south of the RR. It does not occur in the Gila bottom. Probably the same as a number of specimens from Tinajas Altas in the Gila Mts., on the line. Only one specimen preserved. Sitomys sonoriensis. - A mouse of this group is abundant in piles of driftage beside the Gila

Sitomys ^{sonoriensis deserticola} (short, bicolored tail). This mouse reappears, after having been lost sight of at ^{San Ignacio} the Santa Cruz River. First found at camp near May's Branch 50 miles west of the Rio Grande. It prefers damp ground. Eats seeds of Xanthium Canadensis. Spermophilus tereticaudus. - Common.

[Tamias harrisi was abundant in the Gila Mts., on the line. It was last noted on the plain midway between Tinajas Altas & Adonde. It was not seen again until we camped on the Gila River, at Gila City, at the northern extremity of the Gila Mts.]

[Diactyles torquatus. - When questioning Mexicans at Gila City as to whether there were any of these in that vicinity, one of them told me he had killed them on a hill near where the boundary line strikes the Colorado.]

Reptiles, Batrachians & Fishes
at Adonde.

No serpents were seen.

Small Lizards were common.

One Musk Turtle was caught
in the Gila River & put in alcohol.

A Charca or overflow pool
100 yards long & half as wide
was seined & yielded one
small species of fish of
stout build. After that we
seined the Gila River & caught
the above species & one other
small slender fish. These
were put in alcohol.

Frogs were not seen in
any brackish ("alkalai") waters,
neither the Sonoyta or Lower
Gila yielding any species of
Rana. At Guatavaguita
Spring a large, toad-like
frog was captured, though
it appeared to be the only
one.

Gila City, Yuma Co., Arizona

This is an extinct
settlement, 15 miles above
Yuma, on the left bank of
the Gila River. We were
camped there from March
1st to March 5th, 1894.

Mammals.

Lynx baileyi. - Said to
be common. We saw tracks
beside the Gila River.

Canis latrans. - Abundant.

Procyon virginianus. - Tracks.

Mephitis. - Numerous tracks
and smells.

Procyon hernandezii. - Abundant.

Very many tracks. One
trapped in steel-trap, but
left only its toe.

Bats. - ^{Myotis yumanensis?} Small; none were shot.

Canis mexicanus. - Said to
be common in neighboring
Mts., north of the Gila River.

(Mammals at Gila City.)

- Lepus arizonae. - Common.
Dipodomys merriami. - Common.
Dipodomys deserti. - Common
in sandhills down to the edge
of the Gila River.
Perognathus _____. - Abundant
Castor canadensis. - Not now here,
though it was a few years ago.
Fiber zibethicus. - I met two
trappers at Yuma who had
just finished trapping the
Arizona portion of the Gila
River. They said they
saw no Muskrats or
Otters. We saw no signs of either.
Neotoma _____. - Signs, none taken.
Onychomys _____. - Several taken.
Sitomys sonoriensis. - Abundant
in the river bottom.
Sitomys "bicolor". - Common.
Tamias harrisi. - Two seen.
Spermophilus tereticaudus. - A few.

Birds at Gila City.

- Podilymbus podiceps. - A few.
Anas boschas. - Many killed.
Anas strepera. - One flock.
Anas americana. - A few.
Anas carolinensis. - Many killed.
Anas diazioris. - One flock.
Anas cyanoptera. - 4 seen.
Spatula clypeata. - Common.
Dafila acuta. - Common.
Aythya americana. - A few.
Aythya affinis. - A few.
Ardea occidentalis. - One March 1.
Ardea herodias. - Common.
Grus mexicana. - Flock flying
over, some times alighting.
Fulica americana. - Common.
Gallinago delicata. - Few.
Gruja minutilla. - Flocks.
Totanus melanoleucus. - Common.
Actitis macularia. - Common.
Actitis vocifera. - Common.
Callipepla gambeli. - A few.

(Birds at Gila City.)

(No Doves.)

Cathartes aura - Common.

Accipiter velox. One seen.

Buteo borealis calurus.

Falco mexicanus. - A fine female was shot while trying to fly off with a Mallard duck.

Not secured at one shot.

Falco sp. deserticolus - Several

Bubo virginianus subarcticus

Geococcyx californianus

(No Kingfishers.)

Dryobates scalaris bairdi } Common.
Melanerpes uropygialis }

Colaptes cafer. A few.

Colaptes chrysoides. - Two seen

(Several Hummers; not identified.)

Myiarchus cinerascens. - One

Sayornis saya } Common.

Sayornis nigricans }

Empidonax griseus. - a few

Corvus c. sinuatus. - a few.

Molothrus ater obscurus. A flock

Agelaius p. sonoriensis. - a few.

Sturnella neglecta. - a few.

Carpodacus mexicanus frontalis

Pooecetes gramineus. - a few.

Ammodramus v. alaudinus. - do

Chondestes f. strigatus. - Two.

Zonotrichia intermedia. - Abundant

Spizella breweri. - Common.

Amphispiza b. nevadensis. A few.

Melospiza f. fallax. - Common

Melospiza lincolni. - a few.

Comes out at night. Carries its tail erect like a Wren. Seen beside the water at night.

Pipilo chlorurus. - One.

Pipilo aberti. - Very common.

Notes like irate robin's, when mating.

(No cardinals seen)

Amphispiza bilineata

Tachycineta thalassina. - Flock

on Gila River May 2, 1894 First

(Birds at Gila City.)

Stelgidopteryx serripennis. Common
Phainopepla nitens. Common
Singing. Peculiar note.
Lanius l. excubitorides. Common
Helminthophila celata. - A few.
Dendroica auduboni. - Common
Geothlypis tr. occidentalis. - A few
Anthus pensilvanicus. - One or two.
Mimus polyglottos. - One or two.
Geothlypis tr. occidentalis. - A few
Oroscoptes montanus. - Few.
Heleodytes brunneicapillus
Salpinctes obsoletus.
Catherpes m. conspersus Gila Mts.
Troglodytes aedon aztecus. One
Ceothorus p. paludicola Gila River
Regulus calendula. - A few.
Aimophila flaviceps. - Common.
Poliophtila plumbea. Abundant.
Singing a low sweet song.
Melospiza m. purpurascens
(No Bluebirds seen.)

Reptiles and Batrachians
at Gila City.

One snake and a few
Musk Turtles (Knottiana
sonoriense) were taken.
Lizards were common.
Holmes saw a few frogs (Rana).

Fishes.

We scoured the Gila River
and got.

Carp.

Gila gracilis,
(3 species of small fishes
Specimens of all preserved in
alcohol.)

(over)

Vegetation at Gila City.

The trees are Sandbar Willow and Cottonwood along the stream, neither in abundance. On the east slope of the Gila Range were giant Cereuses. The large-leaved Palo Verde grows on all the arroyos as does the Ironwood, both extending sparingly to the mouth of the Gila, and also occurring on the California side of the Colorado River ~~near the~~ mouth of the Gila. The mesquite is the common tree of the river valley (*P. juliflora*). The Screw Bean (*Prosopis pubescens*) grew near the River in some places, and extends to the Col. R. An acacia (*A. greggii*??) was also found in washes. Arrowwood (*Pluchea sericea*) and a large species of

Baccharis were abundant in the river-bottom.

The *Cucumis* having palmate leaves was found here; but on reaching the Colorado River only the "Coyote Melon" was found. Specimens of the present species (in fruit) were sent from Yuma to Dr. Engelman.

Houkera splendens. - Common in the hills; not seen again until we crossed the Colorado at Yuma, where we found it common again in hills bordering the Colorado River in California, and specimens in fl. collected. No Yuccas, Dasylirion or Agaves were seen in that portion of the Gila Mts., near Gila City. *Ephedra* (*Synstemon*?) ~~was~~ occurs sparingly. *Amarantus deflexus*. - Common. *Datura meteloides*? - Common. *Xanthum Canadensis* Common. *Philabertia cynanchoides* Some

Vegetation at Gila City.

The Greasewood is common and extends to the Colorado, extending down that stream to its mouth at the Gulf of California ^{growing in good soil.} Between Gila City & Yuma, Ariz. were seen the finest specimens of greasewood, one of which was almost 4 metres high.

Mammals of the Colorado River,
from Yuma to 10 miles below
the mouth of Hardy River (which
is practically at the Gulf of California
March 5 to April 1st, 1894)

We were camped at Yuma Arizona
from March 5 to 13.

at Monument No. 204 (Lower Canyon)
from March 13 to 31st.

During this time I made a
trip back to Yuma March 20 & 21.
and a trip of eight days
to the mouth of the Colorado

River on the Arizona
and Sonoran side, March
23 to 30, 1894. Trip to Monument
No. 200, Yuma Desert March 15 & 16.
We set traps for mammals
at the following points:

- a. Yuma, Arizona.
- b. Monument 204. ^{on edge of Yuma Desert} Lower Canyon.
- c. " 205. on bank of Col.
- d. Cuerniga Wells 30 m. S. Mont 204
- e. Colonia Diaz, Sonora.
- f. Opposite mouth of Hardy River

The region is inhabited
by a few Mexicans and
a good many Cocopa
Indians. The Indians
burn off the carrizo
marshes & stretches of
hemp & amaranth at
this season of the year,
which destroys many
mammals.

Lynx baileyi? - I saw
skins of a pale grayish
lynx in Yuma; and
one was killed March 19th

Mammals Col. River
at a Laguna 9 miles south of
Yuma by Mr. Page, a
prospector. It came boldly
into his camp at night and
he shot it with a pistol.

Miguel, my Indian (Coco-Pa)
Guide said they were abundant
all along the Colorado River;
and we saw tracks in many
places. The Indians had a
few skins.

Canis latrans. - Abundant.

Vulpes macrotis. - Quite
common. Also inhabits
the neighboring Yuma Desert
to the eastward. At
monument 204 they
were very troublesome
carrying off our mammal
traps that had caught
Dipodomys deserti in
numbers so that we
had to lay poison baits

for them; but we

got none of them.

Urocyon v. scottii probably
occurs, though we saw none.
Skins were seen in Yuma.
It probably inhabits the
neighboring mountains if
not the river bottom.

Lutra canadensis. - We
saw nothing of this. Two
trappers who had just ^{recently arrived at} reached
Yuma from a two mile
trapping expedition down
the Gila River told me that
they saw no Otters nor
Muskrats on the Gila River.
They had shipped a number
of Beavers & Raccoons from
the Gila River, but found
no Beavers on the lower
portion of the Gila River.

Taxidea _____ - Said to be
common. None were taken.

Badger holes were numerous
in places, but appeared to be old.

Mammals of Colorado River

Skunks. - We saw none, though they are said to ~~be~~ occur.

There are probably no Bears. Procyon - Common

all along the Colorado River + Gila. I found this species in 1887, on the highest forks of Gouto Creek ~~etc~~ ^{at} the base of the escarpment bounding Gouto Basin.

Several were trapped on a lagoon near monument 204.

Bassaris was not seen.

Bats of several species were seen. Caracus mexicanus Howell sparingly all the way to the mouth of the Colorado. Wild Domestic Hogs.

in herds roam about the mouth of the Colorado,

infesting the marshes where they are dangerous to us if attacked.

We killed several near the Mouth of Hardy River. Skull of one preserved.

Dicotyles torquatus. - This we did not see. It probably does not occur. The far most western record obtained by me was Santo Domingo on the Sonoyta. We found their signs abundant in the Nariño Mts., and saw a heard near Pozo de Luis.

Ovis montana. - Miguel & others say they are abundant in all the rocky ranges of Lower California.

Lepus texianus. - Crosses the Yuma Desert, but is rare on the middle portion. A few tracks seen at monument 200 Yuma Desert. One

Mammals of Colorado River.
was seen ^{by me} at Lagunita, nine
miles south of monument 204,
and the Mexicans residing
at monument 204 said they
occasionally saw one, etc.

Lepus arizonae. - Very
abundant. Many were seen
in the carrizo marshes
and in the bank growths
of hemp + amaranth. The
Indians said there were
no coarse-haired swamp
rabbits in any of the
marshes bordering the Colorado.

Thomomys perpallidus. - Two
were trapped by me at a well
in a cienega 30 miles
below monument 204, in
Sonora + Mr. Holgren
trapped one near monument
205 on the left bank of the
Colorado River in Arizona.
On that portion of the

river bottom between the
Lower Corner + the mouth
of Hardy River Thomomys
signatus were very abundant
in many places. Sometimes
the ground looked as if
it had been recently ploughed
from the amount of their
workings.

Dipodomys deserti. - This was
abundant along the Gila River,
from Adonde to the Colorado
River, except that it was
not found in the bottomlands
which are subject to overflow
+ covered with an alluvial
soil, as it is a mammal
of sandy country.

It was found clear across
the Yuma Desert to the
Colorado River bottom at
monument 204, around
which spot we trapped
a great many of them,
as the monument had been
made a camping place + a good

(Mammals of Colorado River)

deal of grain had been spilled
& corn on the stalks fed
to the animals, which ~~were~~
attracted many of these
mammals & made a large
colony. The little Swift
Fox (Vulpes macrotis) feeds
on them & was likewise
numerous thereabouts.

We trapped several of them
at my camp at ~~Monument~~
200 about ~~5~~¹⁵ miles
east of the Colorado
in the Yuma Desert. This
this mammal is found
commonly elsewhere
this desert, it is more
numerous in ~~the~~ better
soil around the edges
of it, as along the Gila
& Colorado Rivers and
along the base of the

Gila Mountains. We
first met with it at
Quito Baguio. It became
abundant in the Sonoyta
River a few miles southwest
of that point & extended
thence to the Colorado
and Gila Rivers and
was abundant in sandy
soil throughout that
general region. It
was said to be abundant
about the head of the Gulf
of California; and we found
large colonies of them
at Colonia Diaz on the
Colorado River (I. v. v.).
West of the Colorado its
signs were numerous
in places, but as our
trapping was done in
the Salton River bottom
none were trapped east
of
At monument 204, I

(Mammals of Colorado River.)

caught sometimes ~~trapped~~ them during the brightest and hottest hours of the day, in traps set at the entrances to their burrows in mounds of sand under mesquite wood.

On March 23^d, 1894, when en route to the Gulf of California from monument 204, ~~to~~ on the ^{sandy} mesa between Lagunita and Noche Bueno, I saw several of them running about during a bright sunny day; but they are chiefly nocturnal.

Dipodomys merriami!

A small Dipodomys is common along both shores of the Colorado River from

Yuma to Colónia ^{Naz.} We trapped them at several places and saw their burrows wherever the soil was sandy. They seemed to prefer the edge of the mesa where mesquites and Ephedra grow in abundance.

Perognathus. - This

mammal is exceedingly abundant in the bottom-lands of the Colorado River on both sides, extending from Yuma to the Gulf of California. Castor Canadensis. There is a colony of Beaver about 12 miles below Yuma, on a lagoon of the Colorado River. Seven of them were trapped by members of our party.

(Mammals of the Colorado R.)

Fiber zibethicus. - The Indians told us that muskrats were abundant along the Colorado. I saw some of their tracks at El Rio, on the California side; but we did not get a single Muskrat along the boundary line. On the Verde River at Fort Verde they were common. Some trappers whom I met at Yuma had just reached the mouth of the Gila River, after a winter's trip down that stream. They told me that no signs of Muskrats or of Otters were seen by them on the Gila. Near Seven Hills, on Salton River, Lower Cal.

I saw a hole at the edge of the water which was thought to be a Muskrat; but I did not see it plainly. There were also piles of bivalve shells (Anodonta) such as they pile up about their feeding places.

Neotoma cummingtoni. Very large Wood Rats are exceedingly numerous on both sides of the Colorado River from Yuma to the Gulf of California. Their houses are mostly built under the drooping branches of the large mesquites of this region which commonly trail upon the ground. Most of these large straggling trees show where Wood Rats have gnawed off

(Mammals of Col. R.)

large sections of bark, leaving the white ^{underlying} wood exposed. Many of their houses were composed largely of gourd shells of the seeds called Coyote Melon. They fed upon the seeds.

About the shores of the Gulf of California we found wood rats as far out upon the level savannas of that region as there were any mesquites.

Sigmodon hispidus arizonae

Found in abundance on both sides of the Colorado River from Yuma to the Gulf. They were especially abundant about

~~the river~~
growing upon the grassy savannas bordering the Colorado River ~~at~~ about the mouth of Hardie's River.

Onychomys — — — — — a large species was found sparingly at the Lower Corner near monument 205 + one specimen taken

Sitomys sonoriensis. — a few of the mice trapped on the Colorado River appeared to be this species, and some seemed to resemble S. eremicus; but none were the next species.

Sitomys (recolored tail) (S. fagleri?)

This beautiful mouse is much the commonest mammal of the Lower

(Mammals of the Colorado River)

portions of the Gila and Colorado Rivers. It was first found on dry ground at our first permanent camp west of the Rio Grande (Monument No. 15) and thence to the Colorado & Gila River & Gulf of California. As a rule it was only found near water though there were some exceptions to this rule. It is ~~not~~ a species of meadows & riverbottoms. Nowhere was it so abundant as on the vast savannas of the Col. R., about the head of the Gulf of California, where every trap set amongst the sedges or ~~hemp~~ hemp or in the

pretty sure to contain one of these mice or else a Cotton Rat in the morning. Many of the Cotton Rats were eaten by this mouse while in ~~the~~ the traps, but so neatly did they extract the flesh through a small opening in the abdomen that many of them made very good skins.

Peromyscus eremicus
Peromyscus eremicus - This very small mouse was common along the Colorado River from Yuma to the Gulf of California. Its favorite home is amongst the dense growth of arrowweed (*Sagittaria arifolia* - old name) that covers so large an extent of the Colorado River bottoms.

(Mammals of the Colorado River)

Spermophilus tereticaudus - Ft. Yuma, California, on the right (west) bank of the Colorado River is the type locality. It is common along the Gila from Adonde to Yuma & down both sides of the Colorado to the Gulf. At Yuma, Arizona it is exceedingly common. A partial melanos was taken there.

Note. - No species of Tamias was found on the Colorado River. T. harrisi was last seen at the northern end of the Gila Mts, at Gila City, Yuma Co. Ariz.

Birds of Colorado

Codymbus podiceps. - Common everywhere from Yuma to the Gulf of California in lagoons along the Colorado.

Larus occidentalis ?? - A large Gull (No. 10454) was common on the Colorado from Colonia Diaz to the mouth of the river. One was seen, on March 19th at monument 205 on the Colorado.

Larus delawarensis. - The most abundant Gull at the mouth of Hardy River. Several shot (Nos. 10455 & 10456). It utters a piercing scream almost as sharp as the large Gull of that locality.

Larus sp ? (No. 10457) Common at the Gulf of Cal. & opposite mouth of Hardy River.

(Birds of Colorado River)

Sterna maxima (No. 10462)
Small flocks in the Col. R.
about the mouth of Hardy
River. Two afterwards
seen (April) on Gardner's
Lagoon, Salton River, I. Cal.

Note. - Miguel, my Indian,
said there were a great
many small Terns about
the ship yard at Port Ybabel.

Phalacrocorax sp. ...
(Probably the same as
No. 10,583.) At my camp
on the Colorado, opposite
the mouth of Hardy River,
many flocks of black
cormorants flew up
the river, taking a direct
course from the Gulf
instead of following
the wide curving of
the River on the river.
We passed over shortly
after daybreak and returned
at dusk. Seen all along the ^{Col. R.}

Pelecanus erythrorhynchos. -
Vast sand shoals of
the Colorado River at
the mouth of Hardy River
were always covered
with these birds (except at
high tide). As soon as the
tide receded so as to uncover
the higher bars the birds
would come flying up
the river and cover them.
When feeding they made a
good deal of noise with
the splash of water.

Lophodytes cucullatus. Some
Yuma Indians who were
fishing for me with a net
at Ft Yuma, Cal., on April 4,
caught the only Hooded
Merganser seen on the
Colorado River (No. 10,497).

Birds of the Colorado River

Anas boschas. - Common everywhere along the Col.

Anas strepera. - One of the commonest ducks.

Anas americana. - Common

Seen at El Rio, Col., on the Col. R. April 7, 1894

Anas carolinensis. - Abundant

Anas discors. - One flock of males on Lagoon of Col. R. nine miles below Yuma Arizona, on March 21.

Anas cyanoptera. - Everywhere. The commonest duck.

Spatula clypeata. - Common

Tringa acuta. - Abundant

Hythya affinis. - Common.

Hythya collaris. - Common

Charadrius alberta. - A flock on Lagoon near Yuma in March 13, 1894.

Erasmia subide. - Common

occasionally seen on the Colorado River at Yuma. The last one was seen before we left Ft. Yuma, April 6th.

On the Colorado at the mouth of Hardy River there were thousands of them. The air was filled with their cries and some were shot as they passed over our camp. The birds of their flight were very curious of their



such patterns as the above being often seen. They covered the sandbars in company with the Pelicans.

(Birds of the Colorado River)

Those that we shot were excellent eating. Their gullets were crammed full by the roots of a sedge or rush on which they feed. These roots were about 10-20mm in diameter and they were often full up to the throat. One of these oesophagae was preserved in alcohol. The Indian said the plant was Carrizo a species of *carex*.

Dendrocygna fulva. - Mr. Hiltner shot one on the Colorado River at Yuma, Arizona, on March 10th, but could not recover it.

On March 19, on the Col. at Monument 205, ~~just north of the monument~~ ^{at the blind hole close to} the Colorado River.

Several others were seen on the Colorado, in Arizona. At the mouth of the Colorado this species was abundant.

Stellus loculator. - A few flocks seen soaring over the Colorado at Yuma, and on the head of the Gulf of California.

Botaurus lentiginosus.

Common in lagoons on both sides of the Colorado River to its mouth.

Ardea herodias. - Common.

Ardea egretta. - Abundant on the Colorado & its lagoons on both sides of the river from Yuma to the Gulf of California. One shot opposite the mouth of Hardy River, in Sonora (No. 10463) was getting its nuptial plumage on March 28.

(Birds of the Colorado River)

Miguel, a Coea-Pa Indian told me that there were extensive ^{on streams & lagoons} rookeries of herons & egrets, in the neighborhood of the volcanoes in Lower California. We saw several parties of plume-hunters who were searching for these places. They had killed a good many egrets but found the plumes were not grown out sufficiently by this season to make them valuable.

Ardea candidissima. - Found with the preceding species. Not as common.

Ardea rufescens. - Flocks of Reddish Egrets were seen in the Colorado at monument 205 and on Salt Lagoon at the head of the Gulf of California ^{at the Gulf of California} and southward.

Ardea tricolor fulvica. - Large flocks were seen on the Colorado from Yuma to the Gulf.

Ardea virescens. - A few on Lagoons of Colorado R.

Nycticorax n. naevius. - Very abundant along the Colorado, especially in lagoons & at the head of the Gulf of Calif.

Grus mexicana. - Flocks seen at the Colorado near monument 205 and about the mouth of the River during March.

Gallinula falcata. - A few on lagoons of Col. R. both sides during March & April.

Fulica americana. - Everywhere abundant.

Recurvirostra americana. - Common on slues about

(Birds of Colorado River.)

the mouth of the Colorado River in March.

Gallinago delicata. Common.

Macrorhamphus scolopaceus,
^{at mouth of Hardy River March 29th}
flocks on lagoon at Las Carpa, Sonora, on the Col.

March 29 & 30, 1894.

Zonotrichia minutilla. Abundant.

Ereunetes occidentalis. - First

seen at Las Carpa Sonora,
April 29 & 30, 1894. Common.

Zotanus melanoleucus.

Common from Yuma
to the mouth of the Colorado
during March.

Zotanus solitarius

One or two on lagoons
of Col R. in March.

Symphemia p. mornata.

Heard at mouth of Col R.
seemed to be this

A few seen at mouth
of Colorado River in March.

Actitis macularia. Common
along the Colorado River
from Yuma to its mouth
during March.

Numenius longirostris. -

Flocks seen on the Colorado
River opposite to the mouth
of Hardy River, in Sonora
in March. Last seen
on March 29th, 1894.

Aegialitis vocifera. Common
everywhere.

Aegialitis uvosa. - Two
seen on March 29 on
a sandbar at tide
water on the Colorado
near mouth of Hardy
River No. 10465.

Aegialitis semipalmata. -

First seen at Las Carpa,
Sonora, April 29 & 30th.
Common in lagoons.

(Birds of the Colorado River.)

Callipepla gambeli. - This is the only quail seen in the Col. Valley. It is exceedingly abundant from Yuma to the mouth of the Colorado River.

Zenaidura macroura. - Moderately common on the Lower Colorado.
Columbagallina p. pallescens. - A few on the Col., near our camp at monument 204.

Cathartes aura. - Abundant to the Gulf.

Circus hudsonius. - Common on the flats along the Colorado, especially upon the vast savannas bordering the mouth of the river. Probably a migrant. One in

Accipiter velox

Accipiter cooperi } Abundant to the Gulf.

Parabuteo u. harrisi. - The most common hawk.

Rather shy. I got one of two eggs from a nest supposed to be of this species at monument No. 204. March 23, 1894. The other egg was broken by Hackbart. Nest in thick branches of scrubby willow 10 ft. above ground.

Harris's Hawk is in the habit of hunting in small bands. It utters a loud cry similar to that of the Red-tail.

It was found on the Colorado almost to the mouth of the Rio Hardy as far as there were mesquites.

(Birds of the Colorado River.)

Buteo borealis calurus. - Common
from Yuma to the Gulf.
Bred.

(Swanson's, umbellus and
B. abbreviatus were not seen.)

Falco mexicanus. - One or two in March.
Falco s. deserticolus. - Common.
Through March from Yuma
to the Gulf.

(Polyborus not seen.)

Pandion h. carolinensis. - One
seen on the California
side of the Colorado near
old Ft. Yuma April 7th.

Bubo v. subarcticus. - Common
from Yuma to the mouth
of the Colorado where there
is timber of any kind.

Speotyto c. hypogaea. - Only

Sceloporus californianus
Common from Yuma
to Coloma Diaz.

Ceryle alcyon. - Seen
from Yuma to the
Gulf in March, but
rare. The little Texas
Kingfisher was looked
for everywhere but not
seen.

Dryobates p. bairdi. - Common
from Gila City to Yuma
in mesquites, and thence
down the Colorado as
far as there was any
timber - to near the
mouth of the river.

Melanerpes uropygialis. -
Common from Yuma
to the last mesquites
near the river mouth.

Colaptes cafer. - Common
from Yuma to Coloma
March.

Birds of Colorado River

[Mr. Holzner thought he saw a Colaptes chrysoides near monument 204 on March 30th. I saw none of them west of the Gila mts (E. side).

Chordeiles texensis. - First seen at monument 204 on March 13th. Common by the 18th. Common at the Gulf.

Trochilus alexandri was common from Yuma (March 6) to the Gulf all through March.

No other Hummers identified. Tyrannus verticalis. First seen between Yuma & the Corner March 13 (one pair). Not seen again until March 20th. Common ^{near monument 204} to the Gulf, March 5th to April 6th.

Sayornis saya. - Very common at Yuma on our arrival on March 5, but the migrants soon passed on. One pair remained and bred in the old foot buildings at Yuma, Ariz. Found near mouth of Col. R.

Sayornis nigricans. - Common from Yuma to the Gulf.

Empidonax hammondi. - First seen at Yuma, ^{Col.} April 6th.

Pyrocephalus r. mexicanus.

Very common from Yuma to the Gulf.

Otocoris

Found on bare spots from Yuma to Colonia Diaz March 5th to 29th.

[No Jays on the Lower Col.]

Birds of the Colorado River
Corvus ? - A very

Small crow was shot
at monument 204, on
March 14th (No. 10, 35-5).
A boy living there said
there had been a flock
of them there all winter.

Corvus corax parvus.

Common from Yuma to
the Gulf of Cal. This
was the only bird seen
on the middle of the
Yuma Desert.

Molothrus ater obscurus.

Abundant from Yuma
to Colonia Diaz. March
5 to 29, 1894.

Agelaius p. sonoriensis.

Abundant from Yuma
to the Gulf. A. gubernator
was cooked for me

through March from
Yuma to the Gulf of Cal.

Icterus bullocki.

First
seen at Colonia Diaz
(one male) on March 24.
Common after that
from Gulf of Cal. to Yuma
on both sides of the Riv.

Scolecophagus ruficeps

Common at Yuma
March 5 to 13. Seen at
Colonia Diaz March 24.

Not seen afterwards

Xanthocephalus xanthocephalus

Common from Yuma
to the Gulf March 5 to
April 7th. Both sides R.

Carpodacus mexicanus frontalis

A common species from
Yuma to the Gulf of Cal.

Spizella socialis arizonae. - Only
at Colonia Diaz March 24th.

(Birds of the Colorado River)

Amphispiza bilineata. - A few were seen on the Colorado at or below

Yuma during March.

Amphispiza belli nevadensis. -

Common about Yuma, Arizona early in March. A few seen later as far south as the international line. I

saw what was almost certainly this species at Corral, below Colonia.

Melospiza f. fallax. - One of the most characteristic species of the Colorado River from Yuma to the mouth of the river.

M. f. montana was not identified.

Melospiza lincolni. - Common

P. setar nightfall.

Pipilo chlorurus. - A few during March along the Colorado. Last seen March 23 at monument

204.

S. philo aberti. - The most characteristic sparrow found from the Gila to the mouth of the Colorado.

[No other Towhees were seen ^{than these 2}]

[No Cardinalis or Pyrrhuloxia seen]

Petrochelidon lunifrons. - First seen at Yuma, Arizona, on March 19th, 1894. Afterwards occasionally seen as far ^{South} as the Gulf of California.

Chelidon erythrogaster. - A flock seen at Yuma, Arizona, on March 17th. The first seen. Afterwards common to the mouth of the Colorado. Breeds at Yuma, Arizona.

(Birds of the Col. R.)

Tachycineta bicolor. - A few were seen amongst the Violet Greens at Yuma, Arizona on March 20.

First seen at Sonoyta & Pinaloquito (see notes).

Specimen taken at San Bernardino.

Tachycineta thalassina. - First seen at Yuma March 5, 1894. Common to the Gulf afterwards.

Helgidopteryx serripennis.

Common on the Colorado River during march from Yuma to the mouth.

Phainopepla nitens. - Very characteristic & abundant feeds in the mistletoe of the mesquites.

Lanius excubitorides.

Very common: first seen at Yuma, Cal. in April 4th, after which very common.

Heclunthophila luciae. - First seen at Monument 20th, on March 14.

Heclunthophila r. gutturalis. - First seen at Yuma, Cal. April 6th.

Heclunthophila s. fulvescens. - First common along the Colorado from Yuma to Colonia Diaz during March. More abundant when the leaves came on the willows & mesquites during the first week of April.

Dendroica aestiva sonorana. First seen at Yuma, Cal. on April 6th. One male.

Dendroica auduboni. - Common during March from Yuma to the Gulf. Found by the water's edge.

(Birds of the Colorado River.)

Dendroica nigrescens. - First seen at Yuma, California on April 11th, 1894. Common.

Geothlypis trichas occidentalis. - Quite common on the Colorado during March.

Seen from Yuma, Cal. to Colonia Diaz, Sonora.

Sylvania pusilla pileolata. -

First seen at Yuma, California on April 7th. Common thereafter.

Anthus pensilvanicus. -

Common along the Colorado in flocks from Yuma to the Guarniguth in March.

Oroscoptes montanus. -

Common at Yuma, Ariz. through March. March 5th and March 31. Not few around Yuma. Abundant in the

rust mesquites bordering the marannas about the mouth of the Colorado. There one was heard imitating the notes of

several kinds of shore birds.

Geothlypis trichas cresalis. -

Common along the Colorado. Breeding from Yuma to ^{near} the mouth of the R. [H. palmeri was not seen west of the Gila Mts.]

Heleodytes brunneicapillus. -

Breeds commonly from Yuma southward.

Salpinctes obsoletus. - A

few seen March 23 & 24 between the international line and Colonia Diaz in Sonora, frequenting high sandhills.

(Plants of the Colorado riv.)
just beginning to unfold
their leaves when we
reached Azul on the
Gila. A few were
flowering before we left
them. By the time we
reached Yuma (March 5)
the cottonwoods of the
Colorado were in full
leaf. On the boundary
line at monument
#05 the fruitages
were nearly ready to
burst open by the
middle of March,
and the air was full
of "cotton" by the end
of the month.
The larger trees
measured over a meter
in diameter & were
sometimes 25 meters high.

Lambucus - The European
tree grows sparingly along
the Colorado banks and
is commonly cultivated
about dwellings. Perhaps
introduced. It is a
native tree on the
Santa Cruz & Pilito
Creek in Arizona.
Flowering & fruiting (not ripe)
during March.

Prosopis juliflora - About
Yuma most of the trees
are small and heavily
laden with globular
masses of rustletor.
Further south the parasite
is less abundant and the
trees are larger, but
in place of a prostrate
straggling growth, many
trunks proceeding from
a common, short bole &
raduate & drooping
so that the terminal branches

Plants of the Colorado River)

swamp the ground or are
buried in the soil. Some
of these trees are very
large covering an area
50 meters or more in
diameter. The bark is
much gnawed off by
rats of the genus *Neotoma*.

There was not a
single of leaves or flowers
about any of the mesquites
when we arrived at the
Lower Corner monument
(No. 204) on March 13th.
By the 20th the flower racemes
were showing, with minute
leaves of green. On the
24th of March near the
Gulf of California at
the river mouth many of
the mesquites were in
leaf; but the mesquites

about Yuma showed
but little green before
the first of April.

Prosopis pubescens

The Desert Bean
grows commonly
along the Gila River
and extends to the Colorado,
and extends to the
mouth of the latter stream.
It is later than the
mesquite. Both species
(*P. P. pubescens* et *pubilora*)
are abundant & of large
size on the Colorado
River about Ft. Mojave.

Baccharis. - One or two

species common on
the Colorado below

Yuma.
Cucurbit. - A new
gourd called "Coyote
Melon" was first
seen with in the Col.

(ant) of the Colorado (river)

It grows in the marshes
of the Colorado river into
the willows to a distance
of 3 to 6 meters. Pile
of the grounds were seen
about Ralston nests that
would fill a flour
barrel. Very abundant.
(No. 419).

Yucca splendens.

Common & flowering
in the hills about El
Rio, on the Cal. Side
— April 7, 1894.

Not seen elsewhere
on the Colorado below

Ephedra. — A coarse
Ephedra grows on
the edge of the mesa
of the Yuma Desert

from Yuma to
Coloma Drain (No.
417) and, in fact
was found in spots
near across the Yuma
Desert to the Salt Mts.

Amaranthus deflexus?

A very coarse amaranth
grows everywhere on
overflowed lands
of the Colorado, attaining to
the height of 2 to 5 meters.
It is often associated
with the Sandbar Willow
& hemp. Cattle feed
extensively on this
plant eating even
the coarse branches.
We saw herds grazing
on the dead, leafless
amaranthus all along
the Colorado River
Wild Hemp (No. 409).
Not seen near Yuma,
but begins about 16

(Plants of the Colorado River)

15 miles below Yuma
& extends to the Gulf
It forms ^{almost} impenetrable
mangles and often
grows 5 meters high
- greasewood (No. 397)
grows clear across
the Yuma & Colorado
Deserts. In the river bottom
a few straggling
sandhills are seen
& on them this plant
never fails to appear.
Flowering during March
Nicotiana glauca. - Grows
along the Col. & its
acacias having
probably escaped from
cultivated grounds.
A small species
of this genus
having greenish white

Flowers in common.
(No. 263).

"Mangle?" (No. 379). This
grows in Arroyos
in the California

Side of the Colorado
below Yuma. It was
first seen at Quilovaguito,
Arizona. Afterwards
at Tule Wells, Adonde, etc.
It grows at Gila Bend,
Large leaved Palo verde.

On the Colorado, this
was only seen in
hills below Yuma, on the
California side. It
was commencing to
flower (yellow) on Apr. 7.
Iron-wood. - With the
two above & not
seen elsewhere on the
Colorado ~~below~~.

Note. - The vast Sarramias
surrounding the mouth


1 (Plants of the Colorado River)


of the Colorado River
are covered with sowing
sea grass (no. 411).

There are no vast
canebrakes, but of the
patches of "Carrixa" (no.
412) amongst the tule
rushes & sedge
bordering the river
& its lagoons. ~~marshes~~

Further up the
river where the
boundary line touches
it at monument 205
there are extensive
overflats covered
with a coarse
sedge of the genus
Cyperus.

Solunaro = *C. giganteus*

Pitaiia or } 
Pitihaiia }

Chirita 

Cholla. *Cylindropuntia*

Yuna. *Platanus*

Viznaga. *Echinocactus wislizeni*

Alcoholic 268 last no. coll. at Ft. Lowell.

Altitude of Paso de Luis 2375 feet

" " (11 reading @ A.M.) Sonoyta. 1700 ft.

" " (" 8 P.M.) Luntobazquito. 1550

Felis tigre. - Mr. Dorsey saw one, at La Plomero, Sonora, S. of Nariño Mt. kill a 3-year-old horse, at a rodeo in the presence of several vagueros, who hunted it down with dogs. It "bayed" on a rock and was shot.

He says there are a few along this portion of the boundary line!

Mountain Sheep or Big-Horn.

Mex. name cimarron or smaroon

cima(- top of mt. ?),
sma(- base of mt. ?).

A Porcupine, was killed by a Mexican in the Huachuca Mts, Arizona, in 1890. Mr. Otto Poling and others saw it.

A red-backed Squirrel (*Sciurus aberti*?) was said by Mr. Fraud to have been shot by a hunter in Ash Cañon, Huachuca Mts., Ariz., on Oct. 10, 1893. Probably the winter phase of *S. arizonensis*.

Antrostomus arizonae was heard in Muller's Cañon on Oct. 17, 1893.

Plants at Paso de Luis.

"Iron Wood" and

2 species of Palo Verde.

Greasewood ("Fleediondilla.")

Acchilla

[No oaks and no coniferæ.]

Populus monilifera; few; planted?

Salix nigra. - A few; planted?

Prosopis juliflora - Common

Acacia - Tree; specimens taken

Baccharis pteronoides } Arroyo

" *glutinosa* }
Cucumis (gourd) palmate leaved sp. (over)

Sohuaro = *C. giganteus*

Bouvardia triphylla.

Fouquiera splendens - Abundant

Yucca baccata. - Owl Mt.

Yucca (narrow-leaved)

Dasilysion wheeleri. - Mts.

Amarantus deflexus. - Rank

Xanthum canadensis

Natura metaloides

Cactaceae :-

Opuntia (*Platopuntia*). specimen

" " " Large, coarse

species; no specimen.

Cereus giganteus. - Abundant

Cereus thurberi ? ("Pitara")

First seen at this camp.

Afterwards common on Nari
Mts and all around Sonoyta
on the hills & mts.

In building roofs, the Mexican
and Papago Indians use
heavy timbers of "palo verde",
then crosspieces of "Pitara",
which is strong and bends
well, then "Sohuaro"

poles laid at right angles

across the Pitaras, and
a thatch of "tule" with
baked mud over all.

This makes an excellent roof.

Echinocactus wislizeni - Common.

Used in making candy. Useful
to travellers as a source of the
water it contains.

Cereus ? Small

species with yellow spines.

Opuntia (*Cylindropuntia*) *Cylolla*

Very abundant.

Opuntia (*Cylindropuntia*).

The common arborescent
Cactus of this region. Often
6 to 12 feet high and
with spreading, drooping,
graceful habit.

Small Cactus, (*Mammillaria* ??)

with fine white spines and
small red fruit; common.

Notes on Plants of Nari's
Mountains: -

We camped there one night
(Jan 8 & 9, 1894), and I walked
in the Mts. three hours.

The surrounding plain
is covered with greasewood,
with some mesquite in hollows
and watercourses. Low places
are grown to rank Amaranth
(Amarantus deflexus). In places
the plains between Nari and
Paso de Luis were covered
with rank grass.

Along the lagoon at the
foot of the Nari Mountains
there is a ~~rank~~ ^{heavy} growth of small
mesquite, about 15 feet high.

The mountains are quite
barren, though there are
gigantic specimens of the
"Pitaiia" and Giant Cereuses,
with coarse prickly pears
and small yellow-sprigged
cereuses. The ochitilla is
abundant, and there is
some Ironwood and Palo Verde.
Two species of arborescent
Cylindropuntia are very
abundant and large sized.

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